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ABSTRACT

This report describes the general features of "online learning communities," community organizations that have constructed learning delivery systems that effectively combine elements of the distance learning and traditional models of instruction. It discusses the online learning community framework and explains the four features of these communities: learning environment, vision of adult learning and development, instructional model, and social construct. Three communities are highlighted that demonstrate general features of online learning communities and represent different stages of the process of online community building: "SeniorNet" is well established online, "Neighborhood Networks" is exploring connections beyond its initial purpose of providing training for employment, and "Bridging the Gap of Isolation/Powering Up" is at the beginning of using technology to create an online community for rural communities it serves. Each case study focuses on two major elements most important to adult education: effectiveness of each community in mediating between its members and technology to provide access to tools for learning and capability of each community to provide learning experiences that are transformative, rewarding, accommodating of learning differences, and inclusive of life experiences. The report concludes that early indications suggest the movement's goals and outcomes are complementary to those of adult education in general and adult literacy in particular. (Contains 17 references) (YLB)

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TECHNICAL REPORT

Learning Online: Extending the Meaning of Community

A Review of Three Programs From the Southeastern United States

NCAL Technical Report TR99-01
(September 1999)

NCAL

SEIR•TEC

National Center on Adult Literacy
Graduate School of Education
University of Pennsylvania

SouthEast and Islands Regional
Technology in Education Consortium

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Learning Online: Extending the Meaning of Community

A Review of Three Programs From the Southeastern United States

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ABSTRACT

A number of community organizations have constructed learning delivery systems that effectively combine elements of the distance learning and traditional models of instruction. The learning delivery systems used by these organizations offer new ways in which the adult education community might think about the delivery of instruction, the definition of a learning event, and how adult learning itself might be conceptualized. This report describes the general features of these kinds of organizations, which we have called "online learning communities," and then highlights three organizations that demonstrate these features. The online learning communities discussed are exploring the web and using its capabilities to raise the quality and accessibility of adult learning opportunities for their membership. At the same time, these organizations also show evidence of an understanding of the special characteristics of adult learning and development and the necessity to provide learning opportunities that will engage the adult learner.

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INTRODUCTION

The adult educational community is well aware of the potential of technology to inspire the construction of new models for learning and to accommodate the special needs of adults. As yet, however, current applications of technology within the adult basic education system have not taken full advantage of that potential to adapt adult education systems to incorporate Internet contexts. While computer-based instruction and integrated learning systems are common in many programs, the capacity of the Internet to provide the kind of transformative and self-directed learning that has been described as "the ultimate goal of adult educators" (Pascal-Leone, 1998) has yet to be fully explored.

Although their primary purpose is not the delivery of adult education, a number of community organizations have constructed learning delivery systems that effectively combine elements of the distance learning and traditional models of instruction that are targeted to a wide variety of adults with differing skills and abilities. The learning delivery systems used by these organizations offer new ways in which the adult education community might think about the delivery of instruction, the definition of a learning event, and how adult learning itself might be conceptualized. Perhaps most importantly, they have found ways to address the problems of unequal access to information opportunities by going beyond "simply increasing the supply of hardware, software and telecommunications equipment" (Stites, 1998, p. 14) to strive for uses of technology that are effective, efficient, and economical.

This report will describe the general features of these learning delivery systems, which we have called "online learning communities," and then highlight three communities that demonstrate these features. The online learning communities we discuss are exploring the Internet and using its capabilities to raise the quality and accessibility of adult learning opportunities for their membership. At the same time, these organizations show evidence of an understanding of the special characteristics of adult learning and development and the necessity to provide learning opportunities that will engage the adult learner. The organizations are the following:

- **SeniorNet,** a nonprofit system of community-based learning centers and online services targeted to members 55 and older (http://www.seniornet.org)
- **Neighborhood Networks,** a federally funded educational technology project based in the U.S. Department of Housing and Urban Development for residents of housing projects (http://www.hud.gov/nnw/nnwindex. html)
- **Bridging the Gap of Isolation**/Powering Up, an outreach program funded by the National 4-H clubs and the DeWitt Wallace Foundation whose purpose is to "partner" youth and adults residing in isolated communities (http://www.fourhcouncil.edu/CYD/OPWUP.HTM)

ONLINE LEARNING COMMUNITY FRAMEWORK

How can an "online learning community" be described? Structurally, the community appears to be an extension of the physical community outward to the electronic one. The extension, however, is not linear; it is multidimensional and multilayered. Further, the learning that takes place within these communities is not based in the rote, skill building, and reiteration of traditional school-based learning processes, but incorporates developmental attributes that go much deeper. In this respect, these communities resemble the structure recently proposed as a metaphorical model for adult development, which, as one researcher said, is "more like a web than a ladder" (Granott, 1998).

These communities integrate into their activities processes that actively advocate learning and development, and that are congruent with the emerging psychological theories of development in adulthood.[1] They are designed for adults, not adapted from models originally

meant for school-based learning, and provide resources that are tied to the expressed needs and interests of the communities they serve. No classroom is assumed, rather, the learning process becomes more like following a map, a kind of self-directed journey that the learner is taking with the help of a guide and (sometimes) a compass. Instead of teacher delivery exclusively, the instruction is provided from a multitude of "sources." When assessment of learning is provided at all, it is in the form of self-evaluation, and assumed to be inherent in the performance of the learner in obtaining his or her own objectives.

Because online learning communities exhibit such varied characteristics and purposes, it is difficult to categorize these groups by using standard educational frameworks. In the table below, we describe the features of these communities across a number of dimensions. An explanation of each feature follows.

ONLINE LEARNING COMMUNITY CHARACTERISTICS

LEARNING ENVIRONMENT	Demonstrates elements of the nonformal, informal, and information-based models of learning.
VISION OF ADULT LEARNING AND DEVELOPMENT	Accommodates the special social, psychological, and political characteristics of adult learning.
INSTRUCTIONAL MODEL	Interactive and generative, provides opportunity for customizing adult learning—adapts to a number of learning styles. Provides learning experiences that are transformative, inclusive of life experiences, rewarding, and accommodating of learning differences (Stites, 1998).
SOCIAL CONSTRUCT	Supports collective and participatory communication and meets a diversity of educational and informational needs.

LEARNING ENVIRONMENT

Online learning communities support instruction that recognizes adult development. At the same time, as we discuss below, these communities show the influence of the "popular" education model, a preference for settings characteristic of nonformal and informal education, and an instructional system that resembles the information-based model.

Popular education

Popular education typically begins with a group of adults who have a shared need to solve a problem or problems. "Three essential and integrated components separate popular education from other adult education methodologies: *praxis*, a process of collective critical reflection which results in an interaction between theory and practice; *collective and participatory orientation* in that groups, not individuals, are the object of education, so that the education is conducted by, with and for participants; and an *orientation toward advocacy and action*" (Beder, 1996, p. 74).

The most familiar form of popular education is based in the model first developed by Paolo Freire, called "critical pedagogy." In popular education communities that follow the Freirean model, the goal of critical reflection is always some concrete action (i.e., legislation, improved workplace conditions, the acquisition

[1] For a discussion of ideas that have applications to both educational psychology and adult education, see M. Cecil Smith and T. Pourchot, (Eds.), *Adult Learning and Development* (1998). Topics include epistemological beliefs, adult intelligence, and tacit knowledge.

of benefits or rights). While online learning communities sometimes advocate action and always encourage individual empowerment, action is not their primary goal. To use just one example—for SeniorNet, praxis is reflected in the form of email or listserv/forums, which are designed to foster collective and participatory involvement. Under the "senior citizen" umbrella of membership, there are a number of subgroups, all of which have different informational/educational needs. Action, if action is necessary, is taken by committee, by forum, or by volunteers within the community. The primary goal, however, is the fostering of collective and participatory communication.

Nonformal and informal education

Nonformal education, which takes place in classrooms and other school-like settings, and informal education, which occurs in the context of daily life and work, can and do coexist in these communities. Bridging the Gap/Powering Up delivers instruction through online newsletters in which the "voices" of a large number of participants are heard through casual instructional messages (i.e., "Tips for Success"). In the SeniorNet community, traditional computer and other instruction is offered in classes with teachers in the local communities, while in the online community, more varied and informal learning opportunities are offered, often with links to work or life interests. On some sites, "cyberhosts" facilitate learning.

Information-based education

The focus of curriculum and instructional design in traditional curriculum-based education is usually on the quantity, selection, and organization of information. It is more difficult to determine the focus of an information-based model. Information-based education has been described as "an approach to learning and instruction that focuses on the information attributes of educational situations" (Eisenberg & Small, 1993, p. 264). What this means is that rather than a slice of informational content, the curriculum can include the whole pie. While the availability of so much information has had and will continue to have a profound impact on the way we view teaching and learning, and the ways that we organize learning events, research on the implementation of information technologies in instruction is only just beginning. Furthermore, while it is easy to say that information is educational, it is less easy to classify what kind of education it is. People who have responded to surveys sponsored by community-based organizations report that they use technology (Internet or other) more for educational purposes than for any other purpose,[2] but we are not sure what they mean by "educational."

Online learning communities are able to incorporate features of each of the learning environments described above, but there are also some differences. While, for example, they resemble popular education models in their emphasis on collective and participatory communication, they usually lack the problem-solving impetus that drives those models. They resemble nonformal/informal models in that the learning process can take place anywhere, but they do require basic equipment for access to opportunities. While the resources being offered are certainly information based, the purpose is not simply to disseminate the information—teaching and learning are also embedded in the online activities of the three programs we reviewed.

VISION OF ADULT LEARNING AND DEVELOPMENT

The power of technology to blur distinctions among formal, nonformal, and informal education methodologies has an impact on how adult development is viewed as well as what frameworks might be used for learning. Recent conceptions of adult development depart from the conventional view of human learning abilities as fixed in

2 See CTCNet Survey: Principal Findings. *CTCNet* [Online]. Available: http://www.ctcnet.org/impact98/imp98ch4.htm

early adulthood, undifferentiated, and cultivated through schoolwork—a narrow set of possibilities for adult learners. On the contrary, recent findings suggest that adults continue to develop practical learning abilities throughout their life span, and that they cultivate that learning through and within the workplace, family, and community (Ackerman, 1998; Granott, 1998). Thus the purpose of adult education is no longer seen as merely the acquisition of discrete facts and skills but also includes the development of strategies and dispositions that can effect transformative changes in the learner. In 1977, well before the introduction of educational technology, a special term for adult instruction, "andragogy" was coined by prominent adult educator Malcolm Knowles. He based the term on characteristics of adult learners that he believed differentiated them from younger learners. He stated that as learners mature, they move from being dependent to self-directed learners, they accumulate a "reservoir of experience" that can be used as a resource for learning, and they learn more readily in the social contexts of family, work, and community (Knowles, 1980).[3]

INSTRUCTIONAL MODEL

The common model of instruction is conceptualized as broadly defined situations and events involving the interactions of learners, teachers, content, methods, and objectives (traditionally categorized as units and lessons). Education for adults, however, need not follow that model. For adults, it is more important that the learning situation should be generative and interactive, and incorporate what is known about the social, psychological, and political characteristics of adult learners. In the publication *Assessing Lifelong Learning Technology* (ALL-Tech)*: A Guide for Choosing and Using Technology for Adult Learning* (1998), the authors incorporate these special characteristics of adult learners within four indicators of adult engagement in learning. These indicators state that for learning to be effective for adults, it should be

- *transformative* in that learners are empowered by learning and able to define and pursue individual and collective interests within the community,
- *inclusive of life experiences* in that learning tasks should be rooted in the life experiences of adult learners,
- *rewarding* in that the knowledge and skills acquired in learning tasks carry clear and tangible benefits to learners, and
- *accommodating* to learning differences, in that instruction is available in a variety of modes suited to a range of learning styles and preferences.

Effective online learning communities show clear evidence of understanding these indicators.

SOCIAL CONSTRUCT

Online learning communities emphasize collective and participatory communication and have adapted technology to provide instruction traditionally provided to adults in classroom, tutoring, and other face-to-face settings by computer, modem, and cable. Perhaps the most useful definition of community as it applies to online learning is that it is "the realm of local social relations that mediates between the private sphere of family and household and the public sphere of impersonal formal organizations" (Cahoon, 1998). If we see the community as mediator, then the online learning community might be described as *an organization that uses technology to mediate between the individual and collective needs of its members to assure access to tools for learning.*

As mediators, the online learning communities have sought to meet a diversity of

3 Knowles said he borrowed the term from a German educator, Alexander Kapp, who used it to describe his understanding of Plato's theory of education—that truth is learned rather than taught. Knowles justified the substitution of the Greek stem "aner" (man) for "paid" (child) to create a new word that would be defined as "the art and science of helping adults learn."

educational and informational needs, and have used technology to provide efficient and affordable learning opportunities to the members of their communities. Through this process, the potential audience for adult education has expanded, and in a sense, technology has begun to provide not only a means of communication, but a *basis* for community (i.e., membership in community is conferred by virtue of using the technology). Simply put, people recognize a common need or interest, and create an online learning community around it.

APPLYING THE ONLINE LEARNING COMMUNITY FRAMEWORK

For the purposes of this report, an online learning community is one that

- mediates between its members and technology to provide access to technological learning tools;
- accommodates the special social, psychological, and political characteristics of adult learning; and
- shows evidence that teaching and learning are institutionally and culturally embedded in community activities and perceived to be beneficial to both the community and the individual.

In addition, the community must show strong evidence of providing members with learning experiences that are transformative, inclusive of life experience, rewarding, and accommodating of diverse learning styles.

The three communities reviewed below represent different stages of the process of online community building. SeniorNet is well established online, Neighborhood Networks is exploring connections beyond its initial purpose of providing training for employment, and Bridging the Gap of Isolation/Powering Up is at the beginning of using technology to create an online community for the rural communities it serves. Within each case study, we have focused on the two major elements below for analysis because these features are those that are most important to adult education:

- the **effectiveness** of each of the communities in mediating between its members and technology to provide access to tools for learning
- the **capability** of each community to provide learning experiences that are transformative, rewarding, accommodating of learning differences and inclusive of life experiences

Data on these communities was obtained by close observation of their origin, structures, purposes, and operations; examination of their goals as stated in their literature and other documents (like newsletters); and reports of participants and program directors who were interviewed about the organizations. Where available, formative evaluations of the organizations were also used.

CASE STUDY 1

CASE STUDY 1
SENIORNET: PIONEERS IN CYBERSPACE

Numerous SeniorNet members are in their 70s and 80s, and those are the instructors — in short, these are people who do not intend to go computer illiterate into that good night.

The New York Times, June 15, 1998, p. A1

Background

SeniorNet has been in operation for 12 years, and is a nonprofit organization that provides funding and offers curriculum support for computer classes for senior citizens at its sites across the country. Mary Furlong, the SeniorNet founder, states that in 1986 she "did not set out with a defined goal, a set of blueprints, and a teacher's manual" (SeniorNet Promotional Flyer, 1996). Instead, fired by her belief that older citizens would be able and enthusiastic users of technology, she set up workshops in church basements, senior centers, nursing homes, and local schools—the traditional homes of adult education programs—only she added the element of computer literacy. She says that the organization rose out of her desire to look at community rather than technology and to discover how technology could support a sense of community.

In 1986, the idea that older citizens might be users of technology sounded far-fetched, and the prevailing stereotype of computer users did not include many people over 35. SeniorNet's purpose was to "provide older adults education for and access to computer technology to enhance their lives and enable them to share their knowledge and wisdom." The steady growth of the organization confirms founder Furlong's concept. The 100,000-participant organization has grown to 140 community-based centers plus a somewhat separate online SeniorNet network of people using and sharing resources, activities, and services including a highly praised technology help center. SeniorNet claims that over 85,000 older adults have been introduced to computer technologies through SeniorNet programs conducted in SeniorNet community-based learning centers nationwide.

Community Activities

Gwinnett County SeniorNet Learning Center (GCSLC), located in Lawrenceville, Georgia, is an example of a functioning SeniorNet community. The Center provides a place where seniors can enroll in computer classes taught by their peers and learn at their own pace. All classes are taught by seniors who are volunteers. To meet the needs of older adults, class sizes are kept small. Computer classes are offered regularly. Classes at GCSLC usually last over an 8-week period and meet one day a week for a 2-hour session. Lab sessions are available for practice as a part of the program. Learners do not have to own a computer in order to enroll in the Learning Center. Typically there is a volunteer instructor or coach for every four students. The instructors conduct classes using curriculum materials designed by SeniorNet for the older adult. Instructors state that "Students do not experience time and grade pressures which they often encounter in other educational programs" (GCSLC). A membership in the SeniorNet organization is required to participate in the classes and the cost of individual classes and workshops vary. A flyer for the program reads:

> *If you are 55 or older and want to learn how to use a computer in an Introductory Class or a computer application such as a Word Processing, Quicken, the Internet, a Genealogy Program, or Memoir Writing— this is the place for you. Join with us and have a good time while you learn at your own pace from other seniors.*

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The online SeniorNet community is using technology extensively and for a variety of purposes. Supported activities include the following:

- *MetLife Solutions Forum:* Seniors reflect on their life experiences to gain new insights about important issues that affect society. Participants' responses are compiled as a report, and are made available online and sent to appropriate policymakers. Past topics include "The Future of Medicare" and "Strengthening Education in Grades K-12."
- *Discussion groups:* These are conducted through chats and bulletin boards, which provide opportunities for participants to engage in focused discussions and form interest groups such as book clubs.
- *Online articles:* These inform and stimulate discussion.
- *Links to websites and other online resources:* These connections are established as guides to specific topics of interest.
- *Announcements and educational events:* Events of particular interest to the SeniorNet community are regularly updated.

The classes provide an extensive introduction to technology. It is less clear, however, what happens after the classes are completed. Do seniors then go online? Do the computer usage courses actually lead to increased use of the Internet? The preliminary results of a study being conducted by the Institute of Research on Learning (IRL) indicate that the short answer is "no."[4] Users of online facilities are not the same group as those being trained by the centers. Because the Learning Centers are traditional, and the online community is not—it appears that SeniorNet at present consists of two separate communities.

Effectiveness

SeniorNet's Educational Director Marcie Swartz believes it is important to make the connection between the centers and the online community, and to provide a bridge that will encourage newly computer-literate seniors to explore online resources. She says,

> *We are working on making the communications and connections between our Learning Centers and our online community more functional. Most of our Learning Centers' members do not go online, or at least they don't come online with SeniorNet. It has not been a focus for most of our Learning Centers. We hope to revise this with updated course materials.*[5]

To further encourage members to connect to the larger online community, 56K modems are being installed in learning centers located in senior centers, schools, college campuses, hospitals, libraries, and retirement communities.

One measure of the effectiveness of an organization is the funding that it receives from diverse sources. In addition to receiving significant local, regional, and national community support, SeniorNet also benefits from organizations like Intuit, a software company that provides free tax help for low-income families. 3Com has just donated 56K modems to SeniorNet learning centers nationwide, and IBM offers discounts to members. Other sponsors include telecommunications companies such as Ameritech and AT&T, technology firms such as Intel and US Robotics, and corporate sponsors such as American Express. The learning centers are staffed by volunteers, and supported by Parks and Recreation committees, police departments, local school groups, telephone companies, and private individuals. Recently, the organization won the federal "Point of Light" Award.

4 C. Linde (Personal email communication, Institute for Research on Learning, July 28, 1998). All quotes concerning the IRL study are from this communication.

5 M. Swartz (Personal email communication, July 23, 1998).

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CASE STUDY

Plans for sustaining the organization include a new for-profit branch, and continued outreach programs. Anne Wrixon, the new president of SeniorNet, foresees even more growth.

> *We are currently growing at the rate of about 15 Learning Centers per year, which gives us additional members. Participation in our online site is growing also, mostly independently of the Learning Centers, but we hope to refocus our Centers on also participating online. (Wrixon, 1998)*

Capability

What kind of "education" is occurring online through SeniorNet? We might best categorize it as self-directed, since in all the activities, the individual assumes primary responsibility for a successful learning experience. Seniors can register for roundtable discussions on everything from arts and crafts, to religion, to veterans and wars—but what they take away is up to them. While guidance is available (many members serve as volunteer "cyberhosts"), it is never intrusive, and is not instructional in the traditional sense of the word.

Many seniors report that they find the network rewarding as "a rich source of new friends and support in time of trouble as well as a handy supplier of information on such subjects as how to light a water heater or handle depression." They are appreciative of the accommodation to their learning differences, as well as physical limitations. One member says, "Look how diverse we are! Separated geographically as well as psychographically . . . I talk to people every day who are thousands of miles from me . . . I never thought it possible . . . and I'm still astounded by the technology" (Wrixon, 1998).

Perhaps the most striking effect of SeniorNet, however, is its transformative power. Through SeniorNet not only are learners empowered and able to pursue their interests but geographic distance shrinks, people are united by their interests and needs, physical limitations disappear, and age becomes not a barrier, but an asset called experience.

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CASE STUDY 2

NEIGHBORHOOD NETWORKS: BRIDGING THE DIGITAL DIVIDE

Short of finding oil on your property, this is the best tool for low-income people to get economically competitive that we'll have in our lifetime.

USA Today, July 18, 1998

Background

Fewer than one in ten families earning less than $15,000 a year own computers that are capable of providing access to informational online resources, while more than half of those with annual incomes over $50,000 not only have their own equipment, but have access to the Internet. What can be done to bridge the divide between those who can access modern informational technology and those who cannot?

Neighborhood Networks is an initiative of the U.S. Department of Housing and Urban Development (HUD) that was launched in 1995 to bridge the divide between technology haves and have-nots by helping to establish computer centers in privately owned apartment buildings that HUD insures or subsidizes. About 15,000 multifamily developments are eligible to participate nationwide. Neighborhood Networks operates on the premise that access to advanced technology, with training and support, can help residents increase their earning power and move off welfare and other public subsidies.

While HUD can provide seed capital for equipment and start-up supplies, Neighborhood Networks is not a grant program. HUD expects the centers to be sustained financially by contributions from local partners in each community and by income generated from the center's own business initiatives. Each center must develop its own business plan to join the program. The centers are typically sponsored by apartment owners and managers, residents, and an array of community partners. One $25,000 computer center was paid for by the owners of the development because, the owners said, "We just jumped at this concept that HUD came out with because we're a believer in technology…it gives the economically disadvantaged families this window of opportunity to get up to speed on technology." Apartment owners are encouraged to seek grants, loans, and in-kind contributions from the private sector, philanthropies, and associations to finance hardware, software, and other development costs for the centers. It is a place-based approach to housing and community development.

The apartment building-based centers function like community centers elsewhere, and offer welfare-to-work initiatives, GED studies, basic computer literacy training, and resume writing and other job search activities. What is educationally special about these programs as compared to the traditional community-based program is that access to advanced technology education is seen as a necessity for Neighborhood Network centers—not a "nice to have" or add-on as it is in many adult programs. Supporters believe that computer literacy can help residents increase their earning power, and that they, as partners, benefit. A community college, for example, can access job training and welfare-to-work funds through a partnership with a Neighborhood Networks center. A business gains potential employees. Many of the centers cite positive partnerships with local police associations. One center partnered with the local hospital for parenting classes and health literacy training.

Community Activities

The Neighborhood Networks Center in Virginia Beach, Virginia, was established in 1995 to supply residents of Friendship Village, a housing project with a history of addiction, crime, and unemployment problems, with a local source of job and computer skills training and education. This community, which

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CASE STUDY

has now been operating for 4 years, is a good example of the kinds of activities the centers undertake. It was hoped that the computer training would "act as a springboard to help get people off welfare by preparing them for the job market where computers are increasingly playing a major role," said Charles Famuliner, Director of Multifamily Housing for the Commonwealth of Virginia HUD office in Richmond (Success Stories, 1997).

Irving Beard, Vice-Principal of the Friendship Village Elementary School, and one of the founding members of the local Center, was interviewed on his views of the project after its initial three years. He reported that residents are using technology in ways that meet their immediate needs. For young people, these needs include school research using encyclopedias and the Internet, and learning to use software applications to improve their chances of obtaining entry level jobs. For adults, the curriculum includes resume writing, using email, surfing, and accessing the Virginia Employment Commission's website to review job offerings. All participants are taught desktop publishing and keyboarding skills. Beard emphasizes that "all of our instruction is geared for the individual needs of the adult. While we do have students who have worked with computers who want to brush up on the new technology, we also accommodate those who are receiving training on how to find the 'a' on the keyboard."[6] Beard says that while the Center uses a number of software programs that provide self-directed study, facilitators have found that the adults (in contrast to the younger children) "initially want that one-on-one contact with an instructor." He believes that the program has been successful, within limits, in that some of the students have found entry-level jobs in the secretarial/receptionist fields. But, he added, not as many as he would have liked. He said with some regret that one measure of success for some learners may be as simple as re-location, a move out of Friendship Village.

Effectiveness

Friendship Village attracted substantial initial support for its Center. The Virginia State Housing and Urban Development office, public TV station WHRO, Old Dominion University, and NASA Langley Research Center, jointly supported the Application of Affordable Technology to Link America's Schools, a program that brings computer programs to schools, as part of the Neighborhood Networks project. An FBI special agent and computer specialist from the FBI's Norfolk office provided support for the initial computer training sessions. Agent Richard "Butch" Holtz said: "I've participated in a lot of community outreach programs, many of which seem to be 'give away' programs that don't teach anything, but through Neighborhood Networks, computer skills are being taught" (Success Stories, 1997). Follow-up training on Internet use and job skills for the residents was made available by teaching interns from Old Dominion University's School of Education.

As of early 1998, 340 Neighborhood Networks centers were up and running nationwide, with a total of 720 planned. The centers are staffed by a range of full- or part-time professional staff and volunteers to assist with center administration management, accounting, computer training, and education. HUD recommends that they have at least two coordinators to provide expertise in computer training and technical skills.

While there is no direct financial reward, such as increased subsidies from HUD, to build a computer center, many property owners believe that the presence of a thriving center makes the property more attractive to potential renters. "It makes the property more marketable," said one coordinator. "They can market themselves as a community of opportunity" (Multi Housing World, 1997).

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6 I. Beard (Personal email communication, Friendship Village, August 20, 1998). All quoted material regarding Friendship Village is from this email.

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Capability

A survey of HUD Neighborhood Networks coordinators was conducted over a three-week period in April 1998, to get general information on center activities and identify a few centers that could potentially serve as models (Neighborhood Networks, 1998). Findings from the survey indicate that centers are using technology for instruction in a variety of ways. Most Neighborhood Networks centers, for example, offer some type of adult basic education program. The prevalence of education programs may be because many residents are not qualified to enter job training programs, but instead must work on basic skills. Few centers included in this survey operate English as a Second Language (ESL) classes; most centers run high school equivalency or GED programs. While most centers in the eastern United States that were included in this survey offer classes in technology literacy, few centers in the West offer such classes. While these overall findings suggest that education programs are a priority for most centers in this survey, one Neighborhood Networks coordinator voiced concern that many centers do not have staff with the necessary background or experience in curriculum development to do an effective job. And she may be right, at least for traditional curricula. Possibly for this reason, many Neighborhood Network centers have formed partnerships with local colleges and universities that provide students to teach and work with residents. Other less common forms of partnerships include centers working with secondary schools or school systems and libraries.

Is the Neighborhood Networks project providing "communities of opportunity" that offer rewarding education for participants? Jackie Dunbar, a community resident, appears to think so. In 1997, Ms. Dunbar traveled to Boston, Massachusetts, for a three-day workshop to learn more about computers and the Neighborhood Networks program. When she returned, she served as the resident "expert," helping other residents get acquainted with the new technology. When she began the training at Friendship Village, she was very impressed with the enthusiasm of learners. "Each day," she said, "I watch grown women run to get to the door on time" (Success Stories, 1997). HUD Secretary Andrew Cuomo sees the Neighborhood Networks initiative as providing a community of opportunity. It is important, he said, "to expand the image of Neighborhood Networks beyond just a computer center...ultimately, our ambition must be to build a self-sustainable and robust Neighborhood Networks initiative that empowers HUD communities" (Neighborhood Networks, 1998).

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CASE STUDY 2

CASE STUDY 3

CASE STUDY 3
BRIDGING THE GAP OF ISOLATION/POWERING UP

The breadth and depth of the problems of rural children will surprise many Americans because they do not fit our stereotypes of needy and at risk children. Demographically—in their racial and ethnic makeup and family structure—rural children resemble relatively well-off suburban children. But economically and socially and on health indicators they are often are more like children in our inner cities, where children's problems are worst of all.

Falling by the Wayside: Children in Rural America,Children's Defense Fund Report, 1992

Background

Under the leadership of the National 4-H clubs, and funded by the DeWitt Wallace Reader's Digest Fund, the program Bridging the Gap of Isolation is creating staff development resources and community-based training systems to increase the capacity of isolated communities to provide positive youth development opportunities. The primary method employed is based on the Community Youth Development principle of forming youth-adult partnerships in each community. The program focuses on young people who are most geographically isolated; those living in rural communities, small towns, and inner cities. The intention is to leverage university, cooperative, and organizational resources to support and create community. Powering Up is the technology initiative of this project.

Powering Up is different from SeniorNet and Neighborhood Networks in that the original concept of Bridging the Gap (BTG) included technology only as the support component for the larger project. When the project was initiated in 1995, a conscious choice was made to limit the initial number of participants in order to determine what the best use of the technology might be before disseminating the program to a wider audience. The initial effort of the Powering Up staff was to create an electronic infrastructure for participating communities to interact and learn from each other. The primary goal was to create a model of youth development in isolated communities, and then to disseminate these models to the field of Community Youth Development (CYD). The accounts of participants in the Powering Up project about their experiences in trying to understand, construct, and control the electronic environment illustrate the benefits and obstacles for communities in using communications technology, and highlight the issues involved.

The original ten communities chosen to participate in BTG were selected on the basis of several factors: readiness (including commitment from community and local government), need (such as high youth suicide rates or demographics and poverty rate), opportunity (such as youth and community leadership potential), and willingness to partner with other communities for shared learning and replication efforts. The ten communities chosen represent Native American, rural, agricultural, and ranching communities. Within that framework, four communities were chosen to use technology. The sites each received two laptop computers, a desktop computer, Internet hook-up, computer training, and two years of online technical assistance.

Community Activities

The project was launched in 1996 with the first Advisory Council Meeting at which the chosen sites were announced. The first National Learning Institute for participants was held at the Cheyenne reservation in October of 1997, and the second took place in June of 1998 in San Diego. The Institutes serve to provide a forum for a "learning community" that encourages participants to work as partners both within and across the communities participating. The goals for the Powering Up component were listed as follows:

- Put computers and Internet access into the hands of youth;
- Provide a way for youth to make their voices heard;
- Serve as tool for building stronger communities;

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- Help youth learn about workplace skills, prepare for higher education, and make personal connections with mentors and friends; and
- Help the national 4-H councils learn about the benefits and obstacles for youth in using communications technology.

Effectiveness

The goals suggest that the proposed use of technology (the Powering Up component of the main project) was limited in scope and participation—computers, for example, were only made available to four communities rather than all ten. While training was offered, it was neither intensive nor targeted. The original concept of the project assumed that the technology piece was separate from the goals of the whole project—the proposers did not appear to see the technology as an integrating force for bridging the information gap, but as an add-on to the asset mapping, institutes, youth-adult partnerships, and cluster trainings of the project.

Mark Tirpak, a 4-H site coordinator, explains that "originally, we had a somewhat 'hands off' approach about how participants actually utilize the technology for community youth development work. As an organization, we've learned a lot about the technology and also about making the program more successful and appealing to a diverse audience. In some instances, language has been a barrier (Powering Up also has a Spanish version online), but I think the main challenges have been centered around access, experience, distance, and our own knowledge of what the technology can or can't do."[7] Like many organizations, the 4-H has found that the two greatest barriers to using technology are mastering the technical aspects and training people. It was only when the initial technical problems were solved that the organization was able to take some major steps to focus on the Powering Up sites.

Recent efforts have concentrated on integrating Powering Up with BTG. At the 2nd National Bridging the Gap Institute conducted in San Diego in 1998, BTG offered training in documentation skills that took advantage of computer technology. Participants learned how to make newsletters and web pages using WordPerfect 7, and were introduced to digital photography and scanning technology and applications. And the interest in computer and technology skills seems to be spreading. In one of the non-Powering Up sites, youth and adults are interested in using technology to post results of a community asset mapping that they recently completed. Participants are realizing that computer technology might be a great tool for allowing more members of their community to access information and receive help as well as to encourage more people to list themselves as community resources. Tirpak said:

> *From my experience, the more time participants spend with the technology, the more encouragement they get, the less fearful they become about using the technology, and the more diverse applications they see the technology being used for, the better. For me, the key is to send out the message that the technology is merely a vehicle for bringing their Community Youth Development (CYD) ideas to life. But I also understand, from personal experience, that a lot of ideas can come from watching the vehicle in action and fiddling with the tools.*

One advantage of the technology, he felt, was that it allowed small and isolated communities to compete with the larger, more densely populated communities, particularly in providing information to others. In addition, technology could provide the ability to generate and post information about themselves, their communities, their visions, their values, and their goals. For example, during a community asset mapping activity, it was learned that a world-renowned leather-worker lives in one community. The community and the Powering Up youth are being encouraged to follow up on this, and create a web page for him. Powering Up coordinators are planning to find an outside observer to help other communities switch perspectives and see some of their own special resources.

7 M. Tirpak (Personal email communication, 4-H, October 5, 1998). All quoted material regarding Powering Up is from this email.

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Powering Up has its own web page (http://www.fourhcouncil.edu/CYD/OPWUP.HTM) and an internal listserv. Tirpak says:

> *For many people, their joining the listserv and/or sending an email to the listserv was their first (and some cases only) attempt to communicate electronically. We use the listserv to reinforce messages sent traditionally and to keep people tuned in to the project—to tell them a newsletter/paper is on the way, for example. We also promote cross-community chatter in hopes that more meaningful cross-community interaction will follow.*

Capability

In the first two years of the Powering Up component of the BTG project, there has been substantial internal discussion at the 4-H National Council on the role of technology and its use in the Bridging the Gap project. Several concerns about technology use were listed in the second progress report, published September 1, 1998. These concerns included the fear that groups would be overly dependent on technology as a force for youth leadership, thereby causing the other objectives of the project to receive less attention; the possible misuse of chat rooms; and the appropriateness of electronic communication in the community. The ethics of using the web (i.e., copyright and plagiarism) and the purpose of the technology have also been raised. The situation is complicated by time constraints—the organization is struggling to keep up with technology, while at the same time they are trying to introduce it to people in some of the most technologically and geographically remote areas.

Some Powering Up youth participants led the training of other participants at last summer's institute, showing others how to use the computers, take digital photos and use the scanners, sign people up for free web-based email accounts, and so forth. Having youth trainers at the next institute and working with other similar technology initiatives is an immediate goal of the project. However, as Year 3 of the project begins, technology is still being viewed as a support, and in some senses, as a problem, since the adults involved in the project are not all comfortable with it. The 4-H has found that electronic chatting can be one effective way of balancing the dialogue in youth/adult communications. Coordinators plan to form a smaller Powering Up listserv linking just three BTG/Powering Up sites. Powering Up will institute monthly online chats this year, and incorporate computers into their community work. They also hope to help communities put some of what they've learned from community mapping onto the web.

There is a great deal to be learned from the 4-H experience with technology, and much to be admired in their persistent efforts to use it, examine its implications, and integrate it into the larger BTG project without losing sight of their principal goals. This model fits with the emphasis placed on process in all aspects of the Bridging the Gap project. The original concept of Powering Up rather underestimated the power of technology to bridge not only the barriers of isolation, but of age, class, gender, and ethnicity.

There are signs that the project has resulted in learning and the beginnings of community building for some participants like Tirpak, but it appears to have had little or no effect on others. In a research paper from the University of Kentucky commissioned by the project, isolation is defined as "a context for human growth and development that limits an individual's capacity to develop linkages necessary for exchanging resources with other individuals and communities and the broader society" (Rennekamp, 1998). Technology is beginning to be used to make those links; if the Powering Up project is to maintain sustainability beyond the funding period, which will end in 1999, those existing links need to be made stronger and the usefulness of technology for community building needs to be more convincingly demonstrated.

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IMPLICATIONS FOR COMMUNITY EDUCATION

Most adult education programs want to provide meaningful learning for participants. This means that the instruction offered is based on an authentic model of adult learning and development. Such models incorporate inquiry-based curriculum, objectives that include the acquisition of life skills as well as "basic" ones, outcomes that are measured by performance, and perhaps most importantly, a locus of control centered on the learner. However, many programs have not been able to adhere to this model, for a number of reasons, including lack of resources, problems of learner retention, and extensive remediation needs.

It is not clear whether the integration of online community resources into adult education programs will solve all these problems. But early indications from the movement to create and develop online learning communities suggest that the movement's goals and outcomes are complementary to those of adult education in general and adult literacy in particular. Perhaps adult literacy educators can make connections with online learning communities to expand the resources available for their learners and to help those learners move into self-directed lifelong learning opportunities. At the same time, both established and newly created online learning communities might do well to think about the educational needs of their participants and explore ways to not only provide access to information but also to help participants improve their skills so they can best benefit from that information.

SeniorNet, Neighborhood Networks, and Bridging the Gap/Powering Up also share two important features with traditional community-based adult education programs and other community organizations.

- **They offer a range of educational services and options.** They are the kind of "one stop" service centers Vice President Al Gore recently recommended as a model to the National Urban Coalition as potential revitalizing forces for the inner city. Instead of a Community Center struggling to physically provide services for health problems, unemployment, and family concerns at one location and with limited staff, services can be accessed through a "one stop" website with links to numerous locations, each with their own specialized staffs and expertise. Learners can find at the site not only information about traditional and online or virtual classes in ESL or basic literacy, but help with acquiring a GED certificate or advice on finding employment. One former AmeriCorps Volunteer In Service to Vista described a Neighborhood Networks Center as an "assimilative" organization:

  > *The Martin Luther King Jr. Learning Center will never be confused with a library even though we have a complete (donated) set of hardbound World Book Encyclopedias and a collection of multi-media resources. It's not a school classroom, even though we have the alphabet and the numbers, and we have nine computers in the room. Instead, it's a Neighborhood Networks learning center that assimilates different pieces from many different environments. (Neighborhood Networks, 1998)*

- **They are predicated on the idea that learning both on and off line is essentially a *social* activity.** Learning in these communities is not separated from the contextual lives of the learners. They are intensely social and collaborative, and have established online partnerships for education, transportation, employment, health, and childcare. One group relies on interns from the local community college to teach online classes and tutor residents at the center. Most programs include special interest groups within the online community in order to meet diverse needs. Several programs have managed to build networks of special interest groups that sustain and support the infrastructure, like SeniorNet, which provides a policy forum where members can form groups and hammer out policy papers to be delivered to Congress. Students from high schools and occupational skills centers update old computers for center use and help with computer troubleshooting at centers. A few organizations have formed consortia

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consisting of nonprofit service providers, library personnel, government employees, consultants, congressional aides, state and local elected officials, Urban League staff, and police department employees. One center receives assistance from the FBI.

Respondents to a Community Technology Center survey of users of computer access centers that was completed in 1997 and updated in 1998[8] confirm that adult learners are enthusiastic about the potential educational and personal benefits offered by programs such as those described in this report (CTCNet Survey, 1998). Many learners reported traditional academic gains such as learning to read and write; improved reading comprehension, grammar, and spelling skills; and an increase in their vocabulary. But a significant number of respondents also reported what can be termed a transformative effect—new or changed goals for learning and educational attainment, as well as changes in outlooks and perspectives on education. Thirty-five out of the 817 interviewees were considering further education, some for the first time, and 20 talked about having a greater motivation to learn. Many described positive changes in their understanding of their own ability to learn. These effects support the recent findings regarding adults' lifelong learning capacity and indicate that online learning has important potential benefits for adult education.

Another interesting survey finding concerns the role of centers in the process of government and civic activity, and has implications for informal learning. Community technology centers also appear to be a viable and important resource for obtaining civic and government information. Fifty-five percent of respondents aged 18 or older were registered voters; twenty-nine percent of all respondents said that finding out about local events was a "very important" reason for coming to their technology center. The study found that community technology centers provided participants with access to online community, municipal, and government services and resources. Some used the centers to access information on jobs, housing, and educational opportunities, or used email to voice their opinions on a range of social and political issues, since they had greater interest in reading the newspaper and following current events. Many respondents made connections outside the center with people from faraway lands and with people who had similar interests.[9]

The online learning community model can provide the adult education community with new ways of thinking about the delivery of instruction, the definition of a learning event, and how adult learning itself might be conceptualized. Within online learning communities, technology has come to serve a dual purpose. It provides a "social marketing" tool that employs technology to link instruction and information through a focus on adult interest, while it expands the nonformal educational settings to include diverse locations, ages, ethnic, and interest groups. SeniorNet, Neighborhood Networks, and Powering Up serve as mediators by providing structured opportunities that allow learners access to tools for self-directed learning. Within these networks, the special social, psychological, and political characteristics of adult learning are accommodated. Teaching and learning are institutionally and culturally embedded in community activities and perceived to be beneficial to both the community and the individual. In addition, the networks show strong evidence of providing members with learning experiences that are transformative, inclusive of life experience, rewarding, and accommodating.

Finally, these communities attract significant support and involvement, and have proven themselves to be sustainable and capable of capacity building. It is certainly possible that a partnership between adult education programs and online learning communities could create a context within which lifelong learning—often cited as the principal goal of adult education—can become a reality. ■

8 This information was obtained from a survey conducted by Community Technology Centers' Network (CTCNet). CTCNet is composed of more than 250 computer access centers throughout the United States and Europe. All are committed to work toward a society where each member is "equitably empowered by technology skills and usage." CTCNet has been working closely with the Department of Housing and Urban Development on the Neighborhood Networks initiative.

9 (http://www.ctcnet.org/impact98/imp98ch4.htm)

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